

Date: Tue, 4 Oct 94 04:30:22 PDT  
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>  
Errors-To: Ham-Ant-Errors@UCSD.Edu  
Reply-To: Ham-Ant@UCSD.Edu  
Precedence: List  
Subject: Ham-Ant Digest V94 #330  
To: Ham-Ant

Ham-Ant Digest                      Tue, 4 Oct 94                      Volume 94 : Issue 330

Today's Topics:

                    AEA Iso-loop  
          Antennas are prohibited ...!!!!!!!  
          ARX-2B Transmitting problems  
          Best ant. for 2006? (discone?)  
          Best Antenna Modeling Software??  
          Double delay loop on VHF band  
          DX-88 Radials. How Long?  
FEEDLINE: Looking for mailorder cable places. Any recommendations??  
          HF antenna questions from newbie ham (semi-long)  
          Interference from computer causing receive problems  
          NA4G's "National Electrical Code for Hams"  
          Parabola network  
          Scantenna vs. D-130J discone  
          using twin coax vs ladder line  
          What kind of antenna ?

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>  
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: 4 Oct 94 01:07:41 GMT  
From: davev@atkc.COM (Dave van De Kerk)  
Subject: AEA Iso-loop

Hello,

I will shortly be moving into an apartment building which  
is somewhat antenna friendly. I could put an AEA Iso-loop at about 20  
feet off the ground (roofline) or I can string another long wire.

I am asking all antenna wizards for their predictions. Personal experiences with long wires and loop antennas like the IsoLoop or the MFJ version most appreciated. Owner testimonials appreciated. Vender info appreciated. Horror stories appreciated.

Issues I am interested in are TVI, RFI, RF safety and "getting out."

The IsoLoop could be horizontal or vertical.

The building is a four unit conventional stucco building with plaster and (probably) chicken wire in the walls. The whole building is about 100 feet by 25 feet. The roof is wood and has a very low peak, maybe 2 feet above the lowest point.

There are other "buildings" about the same size in the complex, about 30 feet from our future unit.

There are trees in the complex, and I could probably get a long wire about 70 to 100 feet long, probably peaking about 25 to 35 feet off the ground.

Goals are reliable, hassle free S7 20 meter ssb operation out to about 600 miles and 30 meter CW DX. Intended power is 50 watts out of an Icom 720 A.

Grounding for a long wire worries me. I'd be 20 feet from an Earth ground, and this is dry California soil. I would also string counterpoise wires around the shack ... but ...

Question: has anybody used the MFJ loop antenna? Does it compare to the AEA antenna?

Please e-mail me as davev@atkc.com or dkerk@ctp.org.

=====

This message does not constitute any official or unofficial statement or policy of American Turnkey or any other organization, corporation or institution.

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David P. van De Kerk  
American Turnkey  
714-557-9050 x-168 voice  
KE6GXD

Manager, Systems Integration  
Santa Ana, CA USA  
714-557-9056 FAX davev@atkc.com

-----

Date: 3 Oct 1994 09:52:01 -0400

From: jimkd0av@aol.com (JimKD0AV)  
Subject: Antennas are prohibited ...!!!!!!!!!!!!

I use a Ventenna that was advertized in QST about a year ago or so. Fit right over the vent pipe and gets me into a dx packet cluster abt 25 miles away. For HF I run a center fed zepp through the trees on my property--without the trees I suppose I would need a pop-up vertical. 73 and GL,  
Jim KD0AV

-----  
Date: 3 Oct 1994 19:47:49 GMT  
From: mbunney@bank4.u.washington.edu (Mike Bunney)  
Subject: ARX-2B Transmitting problems

I am having problems tuning my Ringa Ranger II. I have adjusted the bottom slide section to lengthen the distance, but I still only can achieve no better than a -5 on my SWR meter. The antenna sits on 2 sections of OD mastng on top of my roof. I have grounded the mastng and used a 50 ohm coax with 2 PL-259 connectors. The connections seem fine and all are tight.

My reception is great, I only wish that my transmission was as good.

Any help or suggestions would be greatly appreciated.....

Mike Bunney  
KC7BNQ

-----  
Mike Bunney                      Mail Stop:     JE-41  
FMS Manager                    Phone:       685-1508  
Physical Plant Dept.           Fax:         543-0831  
University of Washington       E-Mail:     mbunney@u.washington.edu  
-----

Date: 3 Oct 1994 22:10:05 -0400  
From: n2dvq@aol.com (N2dvq)  
Subject: Best ant. for 2006? (discone?)

In article <36pu0q\$284@emoryu1.cc.emory.edu>, dbarton@unix.cc.emory.edu ( ) writes:

>  
>  
>

Create systems has a very nice Log Periodic Antenna that will cover from 100-1000 well. It requires a rotor, but has much gain over a discone. This ant will out perform the discone at UHF freq's by a ton. Mine has been up for 6 years and looks and performs like its brand new.

There is a low freq version but it is big and costly for 50 MHz and up. Try Texas towers or other ham dist. They all know of it and some have it in stock.

good luck

-----  
Date: Mon, 3 Oct 94 10:41:20 MST  
From: "William P. Osborne" <wosborne@nmsu.edu>  
Subject: Best Antenna Modeling Software??

On 3 Oct 1994 04:50:06 GMT,  
Gary T. Schwartz <garyk9gs@solaria.mil.wi.us> wrote:

>  
>I am interested in getting some feedback from users of popular antenna  
>modeling software. I am interested in modeling wire antennas and phased  
>arrays on the HF bands. I am NOT interested in modeling Yagis. What are  
>the differences between popular software such as ELNEC and Antenna  
>Optimizer (AO)?? Do both of these packages accurately model antennas over  
>"real ground" as well as free space??  
>  
>Do both packages accurately model things like elevated radial systems a  
>few feet above ground?? Or how about low horizontal antennas such as a 40  
>or 80M "cloudwarmer"?  
>  
>How do these two packages differ regarding their ease of use??  
>  
>What type of modeling software are you using out there??  
>  
>Are there any others worth looking at??  
>  
>Finally, does anyone know of any mail-reflectors or Usenet forums that  
>discuss these topics??  
>  
>Thanks for your help.....73 Gary K9GS  
>

Gary, I have Elnec, AO, NEC/Wires and YO as well as a version of NEC from the Oak FTP site. Elnec is the easiest to use of any of them. It is a Mininec program and has the weaknesses of that approach, i.e., horzontial wires below .25 lambda and wires close together (transmission

lines) are a problem. This means that LPA and some 160/80 meter antennas with low wires like delta loops will be a problem. Roy, the fellow who wrote Elnec wrote a good article in QST a while back on these issues and I think it is in the new handbook also but I'm not sure.

NEC has a much better ground modelling capability but is very much harder to use as it is basically a batch program that you define an input antenna for using a text editor one wire at time. However, NEC/Wires is a pretty good implimentation of a front-end for NEC giving you some good graphics for output. When you combine it with AO you get a Mininec based AO with which you can use to test the input file before you go to the trouble of running NEC. AO is competitive with Elnec in terms of algorithms but Elnec's interface is better and easier to use IMHO. AO will allow you to optimize various parameters of any antenna but it maybe slow and/or inaccurate in doing this because optimization is very cpu intensive and it is a mininec algorithm.

Hope this is somewhat of a help. CUL

William Osborne, AA5ZQ                      505-646-3919  
Professor ECE Dept.                      PO BOX 30001, Dept. 3-0  
New Mexico State University      Las Cruces, NM 88003-0001

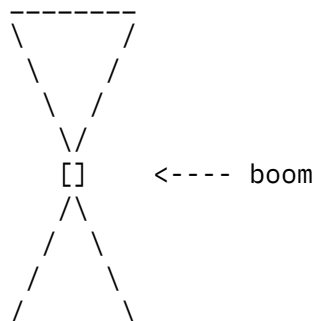
-----  
Date: 3 Oct 1994 19:39:14 GMT  
From: ftronel@ens-lyon.fr (Fredric Tronel)  
Subject: Double delat loop on VHF band

I've built a double delta loop antenna ,after I've read an article on a french review.

The original text has been written by G4ZU Dick.

Here's a description of the antenna :

(one element)



According the author :

.On the 10 meters band with 2\*2 elements :

(Computered) Gain : 10 Db(d)

Widthband : 1 Mhz

My own experience :

.On the the 2 meters band with 2\*6 elements :  
Widthband : 3~4 Mhz (TOS < 1.5)  
Tos center of the band : 1~1.1  
Important gain  
Fed by two gamma match with 2 capacitors.

So if you have informations about such antenna ,or if you want further info ,my mail:

fttronel@ens.ens-lyon.fr

73's from F1SDZ (Fred)

-----  
Date: 3 Oct 1994 08:01:13 -0500  
From: mrz@maverick.aud.alcatel.com (Kris I. Mrz)  
Subject: DX-88 Radials. How Long?

I have a Hy-gain DX-88 vertical antenna but no manual. I am mounting it as a temporary antenna elevated about 10 ft off the ground. Can anyone tell me the length of the radials recommended by Hy-gain?

73  
Kris AA5U0  
mrz@aud.alcatel.com

-----  
Date: Mon, 3 Oct 1994 12:30:09 GMT  
From: cropley@cbnewsf.cb.att.com (andrew peter.cropley)  
Subject: FEEDLINE: Looking for mailorder cable places. Any recommendations??

Looking to get myself some cable. I will be operating on VHF and UHF so I want to get some real high quality line. I don't think I can afford Hardline (connector prices are incredible!). I heard that RG214 is pretty good stuff (better than 9913). I think this runs around 1.50 / foot. Does any one have the specs for RG214?? Are there any other "high-grade" cables out there in this price range?? I was considering a polytetrafluoroethylene dielectric (teflon) since it has high heat ratings (up to 250 degrees Celsius). comments?

Last Q, any recommended mail order dealers. I see adds for the cable X-perts in QST, but I don't see too many others. I do want to make sure I'm getting

my best price.

Thanks in advance

Andy C

N2ZAM

-----  
Date: 3 Oct 1994 15:28:50 GMT  
From: Cecil\_A\_Moore@ccm.ch.intel.com  
Subject: HF antenna questions from newbie ham (semi-long)

In article <1994Oct3.010332.6314@sol.cs.wmich.edu>,  
Robert Adams <radams@cs.wmich.edu> wrote:

>

>A tuner induces a loss. An unnecessary tuner induces and unnecessary loss.  
>I don't even own a tuner... and wouldn't waste my money buying one.

Hi Robert, it just depends on what you want your antenna to do.  
The antenna tuner induces less than 0.5db loss according to the Antenna Handbook, negligible on an 'S' meter. My 88 ft CF dipole works all the way from 80m to 10m with impedances that vary from low to 3000 +/- j3000, impossible to match to a solid state rig without a tuner of some sort. It has a two-lobe 9dbi gain on 20m and a four-lobe 8 dbi gain on 17m over real ground. It has more gain and a lower angle of radiation on 20m than a 20m resonant dipole. I feed it with 450 ohm ladder-line from a 4:1 balun.

There are a lot of advantages to all-band non-resonant dipoles.

--

73, Cecil, KG7BK, 00TC                      Most of the doors in amateur radio can  
(Not speaking for Intel)                    not be opened by a -.-. .-- key.

-----  
Date: Mon, 3 Oct 1994 17:55:44 GMT  
From: dtiller@cscsun.rmc.edu (David Tiller)  
Subject: Interference from computer causing receive problems

Russ Blaine (rblaine@max.tiac.net) wrote:

: My friend has a CB radio that works fine - when his computer is off. When  
: he turns the computer and monitor on, the static and hiss level on his  
: radio go way up, making transmissions very hard to hear and some almost  
: indiscernable.

: Questions:

: How can we get rid of this?  
: 1) Would something like a lead box around the actual CB radio eliminate  
: this?

Lead wouldn't be a good choice. It might shield from Gamma rays, but as a conductor it isn't all that great. To prevent RF infiltration, you want the best conductor you can get - usually copper- or silver-based paint or braid to seal the enclosure.

: 2) Would a lead box around the computer eliminate this?

No. You'd never be able to move it again, though.

: 3) Is it the antenna's fault (we're using a homemade 1/2 wave dipole  
: mounted vertically)?

It's the antenna's fault (possibly) in that it's too close to the computer. If you've got the coax and space, move it outside and away from your computer. If you've got bad connections/open spots in the coax, you're asking for trouble, too. What kind of coax is he using? Decent stuff, or Rat Shack RG-58? The better the shielding on the coax, the less signal infiltration you'll get.

: 4) Any suggestions as to where I can find sheets of lead (if that's the  
: answer) and how to put it up?

Again, try to get some copper paint and braid to seal the cabinet. Ask around for suggestions - I don't know of any brand names.

: The interference is not coming specifically from the monitor or computer,  
: but both.

Yes, that's correct. Usually the worst radiators are cables connecting pieces. Try ferrite beads/donuts on them, sometimes that'll help.

: Is the interference (apparently caused by electro-magnetic fields from  
: the monitor and computer, right?) getting picked up by the antenna, the  
: radio itself, or both?

It could be both, depending on how well (or poorly) they're shielded. Try connecting a PL-259 with a 47ohm resistor (or a good dummy load) across the CB. Listen and see if you've still got interference. If so, the radio itself is getting RF into it. If not, it's either the coax or the antenna's proximity to the computer.

--

David Tiller

| Network Administrator | Voice: (804) 752-3710 |

dtiller@rmc.edu | n2kau/4 | Randolph-Macon College | Fax: (804) 752-7231 |  
"Drunk, [Beowulf] slew no | P.O. Box 5005 | ICBM: 37d 42' 43.75" N |  
hearth companions." | Ashland, Va 23005 | 77d 31' 32.19" W |

-----  
Date: 3 Oct 1994 16:19:44 GMT  
From: ab4el@cybernetics.net (Stephen Modena)  
Subject: NA4G's "National Electrical Code for Hams"

[ At the end this are instructions for retrieving the file via Internet.]

% Article by Robert D. Keys (NA4G) on the National Electrical Code as it %  
% may apply to amateur radio stations. This is an interpretation based %  
% upon the author's experiences, studies, and reading of the Code. %  
% This article is copyright, 1994 by Robert D. Keys (NA4G). %  
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% This article is typeset using the LaTeX Technical Typesetter. %  
% REVISION OF 26 JAN, 1994 %

#### ABSTRACT

This work was presented as a talk to the Homebrew Special Interest Group (HB-SIG) of the Raleigh Amateur Radio Society (RARS), on 15 January, 1991 and was revised for another presentation on 26 January, 1994.

This document contains excerpts of the National Electrical Code (NFPA 70-1990) that, in the author's opinion, apply to the installation of amateur radio equipment as would commonly be found in most amateur radio stations. Direct excerpts from the Code are contained within inset quotations. Paraphrased excerpts from the Code are itemized. The author's interpretation and discussion of the Code is set full-width. The author's interpretation and discussion of various sections of the Code is not meant to be all-encompassing, nor the official interpretation of the National Fire Protection Association, nor of any official governing body having legal authority of jurisdiction over electrical installations, but is meant to be used as a teaching tool for amateur radio operators.

Robert D. Keys, NA4G  
Raleigh, NC,  
25 September, 1994.

Enjoy  
73 DE NA4G  
Boatanchor Bob

```
*****
* 73 TU SU SK DE NA4G          ``Boat Anchor Bob'', an ol' CW fart. *
*****
* Morse has been in the family for over 100 years.                  *
* Morse radiotelegraphy (Spark/CW) has been in the family since 1914. *
*****
* May you have fair winds and following seas on your watch at the key. *
*****
```

[ The files referred to in this 'readme' can be retrieved by  
anonymous ftp from two archive sites:

SunSITE.unc.edu (permanent)  
/pub/academic/agriculture/agronomy/ham/things-to-build/na4g

ftp.Cybernetics.NET (temporary)  
/pub/users/ab4el

For ease, the group of files have been 'rolled into one'...

nec-1994.tar.Z 861,677 bytes (for Unix jocks)  
nec-1994.zip 732,309 bytes (using PKZIP 2.04g for MS-DOS users)

Download one or the other according to your computer/print facilities.

Don't forget to set 'binary' mode before 'get'...else they will  
come to you as trash. :^)

de AB4EL ]

-----Cut Here-----

-----  
Date: 3 Oct 1994 16:09:50 GMT  
From: elendir@enst.fr (Elendir)  
Subject: Parabola network



the two coax cables to the antenna, did you just tape them together? Is there any critical spacing? At the feed point of the antenna, does the sheilds float? Did you use 50 or 75 ohn coax, or doesn't it matter?

This idea sounds interesting, I have a ton of 50 ohm surplus coax and I might give it a try.

Tom WB7ASR...

> I am using two coax lines as a feed for a full wave 80 meter loop. It's  
> known as shielded open wire and works great. The antenna is fed through  
> a tuner and a unbalanced to balanced bauln. The output of the tuner is  
> fed to a short length of RG8 that goes into the bauln, which is located  
> just outside the shack. The output of the bauln is balanced and feeds  
> the two lengths of RG8 coax.

>

> There are some advantages to using this method over standard open wire -  
> 1. - You can route the coax much easier since it does not have to be  
> spaced away from the tower, mine is taped to the tower itself.

>

> 2. - Noise pickup on the transmission is reduced.

>

> 3. - Feedline is very weather resistant, if you use good coax.

>

> One of the recent ham mags had a quickie writeup on it, if I find it  
> again, I will pass the info along.

>

> The antenna has been used on 40 and 80 for a number of years with  
> excellent results.

>

> Lou Nigro - KW7H

>

>

-----

Date: 3 Oct 1994 15:14:51 GMT

From: moritz@ipers1.e-technik.uni-stuttgart.de ()

Subject: What kind of antenna ?

Udo,

I think the best antenna is the turnstile (Drehkreuz) antenna  
made from two folded dipoles with proper combiner-phaser.  
+ a cross dipole reflector.

The VHF communications have some times ago published a much  
simpler design, but this requires determination the WSWR  
of the individual dipoles before fully assembling.

I have posted this instead of answering directly, since I am interested in alternative opinions. I know there is a design looking like a pair of twisted frames.

73, Moritz DL5UH

-----  
Date: Mon, 3 Oct 1994 17:56:46 GMT  
From: dtiller@cscsun.rmc.edu (David Tiller)

References<Cwq231.J6H@rahul.net> <1994Sep26.130224.16872@ke4zv.atl.ga.us>,  
<CwroqF.1wM@cbfsb.cb.att.com>  
Subject: Re: 2 Meter SWR meter schematic????

andrew peter.cropley (cropley@cbnewsf.cb.att.com) wrote:  
: In article <1994Sep26.130224.16872@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary  
Coffman) writes:  
: >In article <Cwq231.J6H@rahul.net> Mike Lyon <mlyon@rahul.net> writes:  
: >>  
: >>does anyone out there by chance have a schematic for a swr meter for 2  
: >>meters? or know of a place where i can get one?  
: >  
: >The RSGB VHF UHF Book has a project that makes one out of some standard  
: ^^^^  
: What's this stand for??

Radio Society of Great Britain. They put out good books that are sold thru the ARRL.

--  
David Tiller | Network Administrator | Voice: (804) 752-3710 |  
dtiller@rmc.edu | n2kau/4 | Randolph-Macon College | Fax: (804) 752-7231 |  
"Drunk, [Beowulf] slew no | P.O. Box 5005 | ICBM: 37d 42' 43.75" N |  
hearth companions." | Ashland, Va 23005 | 77d 31' 32.19" W |

-----  
Date: Mon, 3 Oct 1994 22:09:44 GMT  
From: radams@cs.wmich.edu (Robert Adams)

References<36eo65\$99f@masala.cc.uh.edu> <1994Oct3.010332.6314@sol.cs.wmich.edu>,  
<36p7vi\$fvj@chnews.intel.com>  
Subject: Re: HF antenna questions from newbie ham (semi-long)

In article <36p7vi\$fvj@chnews.intel.com>,  
<Cecil\_A\_Moore@ccm.ch.intel.com> wrote:  
>In article <1994Oct3.010332.6314@sol.cs.wmich.edu>,  
>Robert Adams <radams@cs.wmich.edu> wrote:

>>  
>>A tuner induces a loss. An unnecessary tuner induces and unnecessary loss.  
>>I don't even own a tuner... and wouldn't waste my money buying one.  
>  
>Hi Robert, it just depends on what you want your antenna to do.

Not at all. The tuner deals with feedline impedance... not the antenna.

>The antenna tuner induces less than 0.5db loss according to the Antenna  
>Handbook, negligible on an 'S' meter.

Don't take one of my classes! On second thought... you can't... I retired.  
<grin>

>My 88 ft CF dipole works all the way

That's all well and good, Cecil. But, you're using a balanced feedline and  
it was an \_unbalanced\_ feedline that was under discussion. Apples & oranges.

>It has a two-lobe 9dbi gain on 20m and a four-lobe 8 dbi gain on 17m over  
>real ground. It has more gain and a lower angle of radiation on 20m than a  
>20m resonant dipole.

Not meaning to sound flippant... but, just how did you arrive at those  
figures? DBI? Sounds like modeling software... not real world data.

>I feed it with 450 ohm ladder-line from a 4:1 balun.

And, again, what has this to do with 50 ohm unbalanced lines?

>There are a lot of advantages to all-band non-resonant dipoles.

That's what people with all-band non-resonant dipoles invariably suggest.  
;->

Robert Adams, PE  
WA9ZMO  
radams@cs.wmich.edu

\* "FREE (U.S. from) WILLY!" Vote Republican in November!

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End of Ham-Ant Digest V94 #330  
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